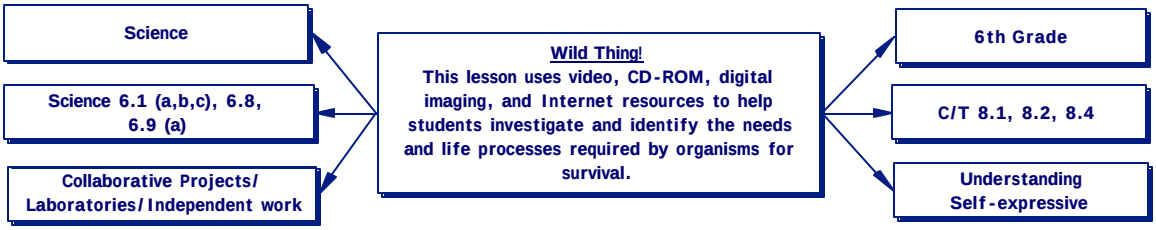

Wild Thing!

Sarah Hull
WVPT
Harrisonburg

Curriculum Area	Science
Subject Area	Life Science/Biomes, Ecosystems
Grade Level	6th grade
Learning Objectives	• The student will be able to investigate and identify the essential life processes that organisms perform for survival. • The student will be able to identify the basic needs of organisms according to their ecosystem/biome. • The student will be able to use information gathered from the Web and from the hands-on lab to create their own ecosystems/biomes.
Correlation to the SOL	Science 6.1 (a,b,c), 6.8, 6.9 (a) C/T 8.1, 8.2, 8.4
Video/Technology Hardware/Software Needed	**For class:** TV Monitor/VCR Digital Camera **For each student:** Computer with Internet connection, attached to a printer (color preferably) Presentation software (such as *PowerPoint* or *HyperStudio*) Word Processing software (such as *ClarisWorks* or *Appleworks*) Drawing software (such as *Corel Draw* or *KidPix*) **Video:** *The Animal Life Series, #3. How Animals Survive* **Web Sites:** *The World's Biomes* http://www.ucmp.berkeley.edu/glossary/gloss5/biome/index.html *Biome Basics* http://www.richmond.edu/~ed344/webunits/biomes/biomes.html *The CyberZoo: What is a Biome?* http://www.lsb.syr.edu/projects/cyberzoo/biome.html *Ecosystems of Our World* http://library.thinkquest.org/2988/ecosystems.htm

Materials Required	**For each group of 4 students:** Rope (4-5 feet in length) 2 wooden stakes or dowels Trowel or small shovel Lab tray Paper towels Spray bottle/container of water Specimen jar **For each student:** A copy of the lab, *What's in Our Backyard?* A copy of the Web activity, *Wild Things* A copy of the Wild Thing Project Instructions Sheet A copy of the Evaluation Rubric
Procedures/Activities	1. Show several segments of the video, *How Animals Survive*. Discuss elements of survival. 2. Lead students in a brainstorming session to list living and nonliving things found in their backyards and in the schoolyard. Discuss how animals and plants are affected by their surroundings. 3. Put students in groups of 4. Distribute lab sheets and lab equipment. Review procedures before going outside. **Note:** You may wish to stake off the areas to be explored prior to the class. In this case students have no need for a hammer. 4. Monitor student progress and group interaction. Using the digital camera, take pictures of students working. Allow each group to take a picture of their most interesting find. Print pictures when you return to the classroom. 5. Allow students to share discoveries. Use pictures from digital camera to compare and contrast findings. You may post these on a bulletin board. Lead a discussion about how living and nonliving factors affect an ecosystem and its inhabitants. 6. Distribute Web activity sheet. Monitor student use of computer as they complete the sheet. You may wish to have the students record answers by cutting notes from the Web site and pasting them into a word-processed document. **NOTE:** You may have students use an alternative Web site, such as one of the ones listed above. 7. Collect Web activity worksheets for a grade. 8. Distribute Project Instruction Sheet and review with students. 9. Allow students 2-3 days to complete the project. 10. Conduct a Wild Thing Share Fair. Distribute a Wild Thing Rubric to each student. Allow time to assess one another's work.
Content Assessment	Did the student: a. correctly define ecosystem/biome? b. identify basic needs required by organisms in order to survive? c. use lab equipment correctly to gather data? d. use the information to create their own ecosystem/biome in which animals needs are met? e. correctly used computer as a tool to display ecosystem/biome (including keyboarding and editing skills)?
Technology Integration Assessment	See attached rubric
Extensions	**Science:** Invite a chemist to speak on the importance of understanding atoms in the 21st century. **Technology:** Post original ecosystem/biome designs on the school's Web site. **Current Events:** Research endangered ecosystems/biomes and ways students can help.

	Host an ecosystem awareness day complete with a trash pick-up **English:** Write a play in which the characters if your ecosystem/biome interact. **History:** Research the importance of the Galapagos Islands and the theory of survival of the fittest in ecosystems/biomes.

What's In Our Backyard?
Lab Sheet

Name _____ Date _____

If you were to name all the organisms in your backyard in 20 seconds your list probably wouldn't be complete. In this exploration you and your group will go on a journey to gather information about the living and nonliving organisms we can find in our school yard. Work together and keep your eyes open. You never know what you'll find!

1. Using the rope/string and stakes mark an area of 5ft.x 5 ft. as directed by your teacher.

2. Using the stopwatch, observe all you can for one minute. Just look and listen. Allow your senses to truly go to work. After one minute has expired list all the things you see, smell and feel.

_____
_____
_____
_____

3. Using the hand trowel, dig a small patch of dirt and place in your tray. Use water to spray off any items that need be. CAUTION- Be careful if spraying a live critter. You do not want to drown anything!! List all the organisms, living and nonliving found in sample one. Gently place any organisms you wish to further inspect in your specimen jar.

SAMPLE 1:

4. Repeat step 3 and label this Sample 2

SAMPLE 2:

5. With your group separate your findings into 2 categories. Living and Non-living. Then brainstorm a list of three general characteristics that would apply to all the organisms in each group. (3 characteristics for living and 3 for non-living.)

LIVING ORGANISMS NONLIVING ORGANISMS

6. LIVING CHARACTERISTICS:
1._____
2. _____
3. _____

7. NONLIVING CHARACTERISTICS:
1._____
2. _____
3. _____

8. Be aware that as the digital camera is passed to your group you need to take a picture of your most interesting find. Include group members if possible.

ANALYZE and CONCLUDE:

1. How do the living and nonliving organisms you found make up an ecosystem/biome?
_____
_____

2. What would you name your ecosystem/biome? Why?
_____
_____
_____

3. Describe one way in which a living organism you found is dependent on a non-living organism.
_____
_____
_____

4. What basic needs do all the living organisms in your ecosystem/biome share?
_____
_____
_____

5. What is the most interesting organism (living or nonliving) that you and your group found. Why?
_____
_____
_____

Wild Thing: You Make My Heart Search!
A Web Activity

The World's Biomes
http://www.ucmp.berkeley.edu/glossary/gloss5/biome/index.html

Name _____ Date _____

Now that you have a basic understanding of what an ecosystem/biome is, you are going on a quest to gather more information about the biomes of our world. Carefully seek out the answer to each question and write down or record any other interesting tidbits of information that you find.

Ready, Set, Search!

1. Go to the URL Address

2. How many ecosystems do you see listed?_____

3. Name them and write a hypothesis detailing the characteristics of each one

_____

_____

_____

_____

_____

_____

_____

_____

_____

4. Visit each ecosystem and compare your hypothesis with the actual data.

5. Create a chart detailing the following information about each ecosystem: Name, Land Coverage, Temperature, Location (latitude), Organisms (living and nonliving), One interesting fact.

WILD THING
Project Instruction Sheet

You have now mastered an understanding of what an ecosystem/biome is. As a highly sought-after scientist, you have been commissioned by the United States Conservation Society to create a new ecosystem/biome in which all inhabitants are healthy and where all needs are met. Your research and design may lead to new world discoveries and fame. Carefully plan your design and examine all avenues! Above all, have fun and remember the life of your ecosystem/biome depends on you!

Here are the requirements for your project!

You must include:

1. Name of Ecosystem/Biome
2. Where Ecosystem/Biome can be found. (Country, state, city, county, longitude and latitude)
3. Five animals, including: name, habitat, classification (omnivore, carnivore, herbivore), favorite foods, dangers they face, adaptations (behavioral and structural), how many young they produce in a year, one interesting fact
4. Five species of plants, including: name, classification (flower, tree, shrub), basic needs (amount of sunlight and rainfall needed), habitat
5. Average temperature
6. Description of climate
7. Number of seasons it experiences
8. An example of a food web
9. Information organized in a chart or database
10. A drawing or detailed picture

You may choose to develop and design your project using one or a combination of the following tools: PowerPoint, HyperStudio, Corel Draw, Appleworks, and/or tangible 3-D model (your project should be mostly computer based). Check your choice with you teacher and begin. Remember to include family and friends!

Ready, Set, GO Scientists!!

WILD THING RUBRIC

Name:	2 pts - Named ecosystem	1 pt - Name isn't clear	0 pts - Did not include name	
Location:	2 pts - Included where ecosystem can be found, (Country, state, city, county, longitude and latitude)	1 pt - Included where ecosystem can be found but left out 3 or more details	0 pts - Did not include location or any detailed information	
Animals:	2 pts - Included: five animals, including: name, habitat, classification (omnivore, carnivore, herbivore), favorite foods, dangers they face, adaptations (behavioral & structural), how many young they produce in a year, one interesting fact	1 pt - Included five animals but left out 4 or 5 details	0 pts - Did not include any animals	
Plants	2 pts - Five species of plants, including: name, classification (flower, tree, shrub), basic needs (amount of sunlight and rainfall needed), habitat	1 pt - Included five plants but left out 2 or 3 details	0 pts - Did not include any plants	
Temperature:	2 pts - Included average temperature	1 pt - Included a temperature but did not average temperature for a year screech:	0 pts - Did not include any temperatures	
Climate	2 pts - Included detailed description of climate	1 pt - Included a one sentence description of climate and needed further explanation	0 pts - Did not include description of climate	
Seasons	2 pts - Included specific number of seasons	1 pt - Briefly mentioned seasons with more detail needed	0 pts - Did not mention seasons	
Food Web	2 pts.: Provided an example of a food web	1 pt.: Provided an incomplete example of a food web	0pts - Did not include a food web	
Organization	2 pts - Organized information in a concise, neat, easy to read chart or database	1pt - Organized information in a chart or data base that was difficult to read	0 pts - Sloppily displayed information with no sense of order	
Illustration	2 pts - Included a drawing or detailed picture that captured the very essence of your ecosystem (left nothing to the imagination)	1 pt - Included a picture but could have used more creativity, imagination, color or detail	0 pts - Made no attempt to include a picture	
			TOTAL POINTS:	

WILD THING YOU MAKE MY HEART SING: A (18-20 points)
WILD THING YOU MAKE MY HEAT SIGH: B-C (15-17 points)
WILD THING YOU MAKE MY HEART SCREECH: D or lower (14 or less points)